

FIG. 1A

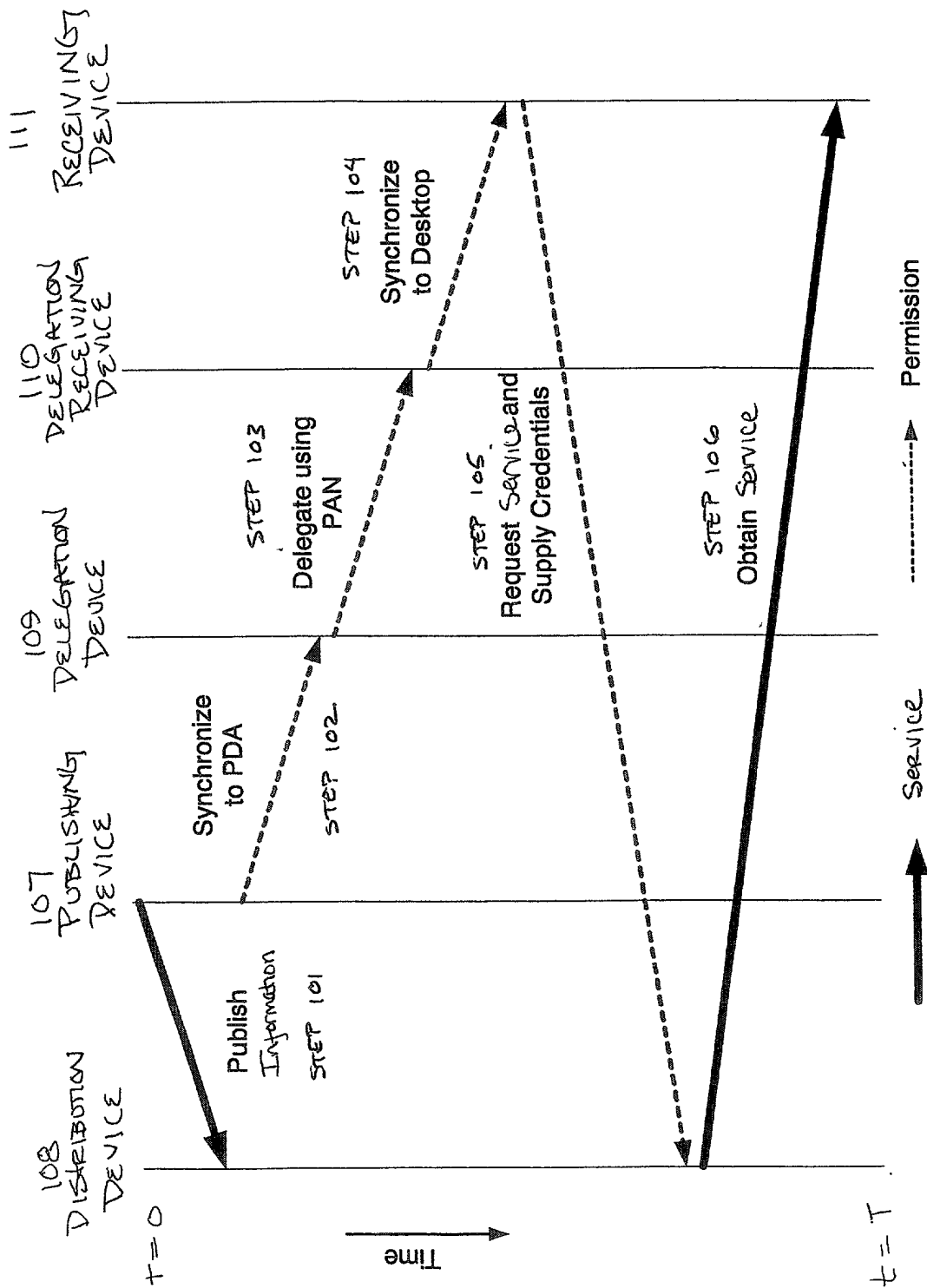
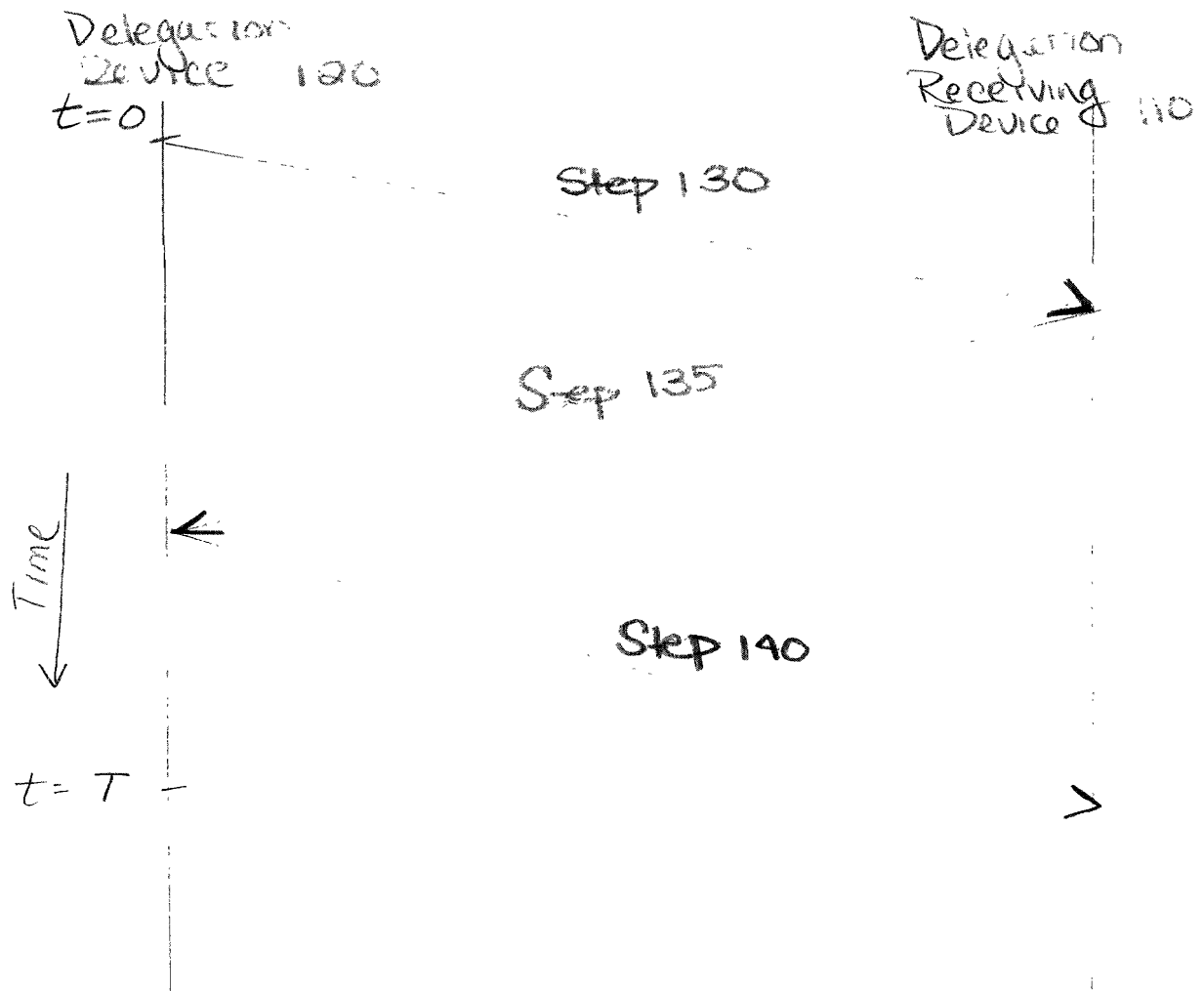


FIG. 1B



Data Structure Definitions in ASN.1

permissionChain ::= SEQUENCE OF permissionLink

permissionLink ::= SEQUENCE {  
permissionLinkComponent permissionLinkComponent,  
Signature OCTET STRING  
}

permissionLinkComponent ::= SEQUENCE {  
Name OCTET STRING,  
Uri OCTET STRING,  
Description OCTET STRING,  
Note OCTET STRING,  
Version INTEGER,  
Src\_p INTEGER,  
Src\_q INTEGER,  
Src\_g INTEGER,  
Src\_pub INTEGER,  
Src\_x509cert OCTET STRING,  
Src\_email OCTET STRING,  
Subj\_p INTEGER,  
Subj\_q INTEGER,  
Subj\_g INTEGER,  
Subj\_pub INTEGER,  
Subj\_x509cert OCTET STRING,  
Subj\_email OCTET STRING,  
Delegate BOOLEAN,  
Read BOOLEAN,  
Write BOOLEAN,  
validFrom GeneralizedTime,  
validTo GeneralizedTime  
}

FIG. 1C

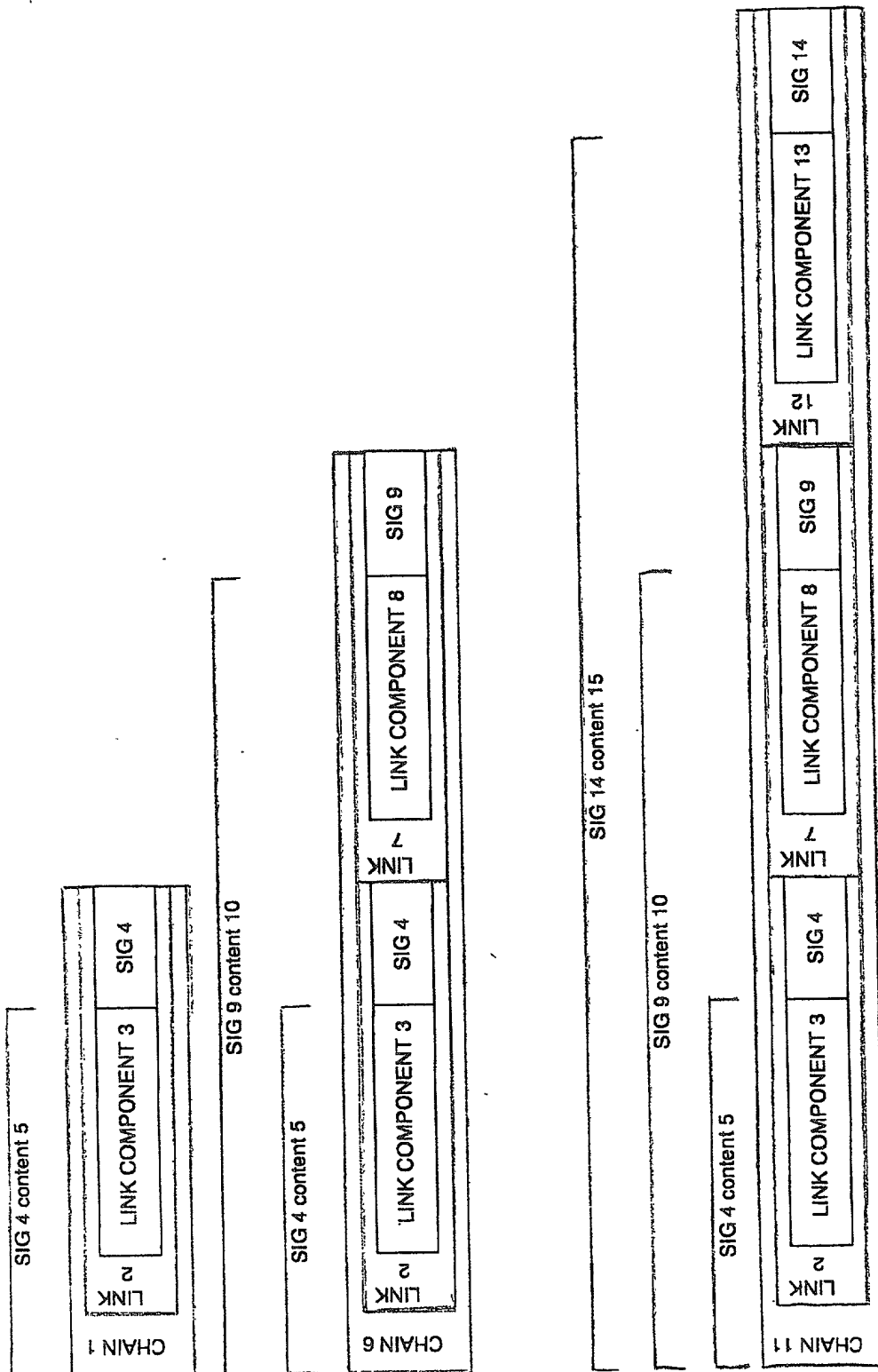


FIG. 1D

# System Overview

FIG. 2A

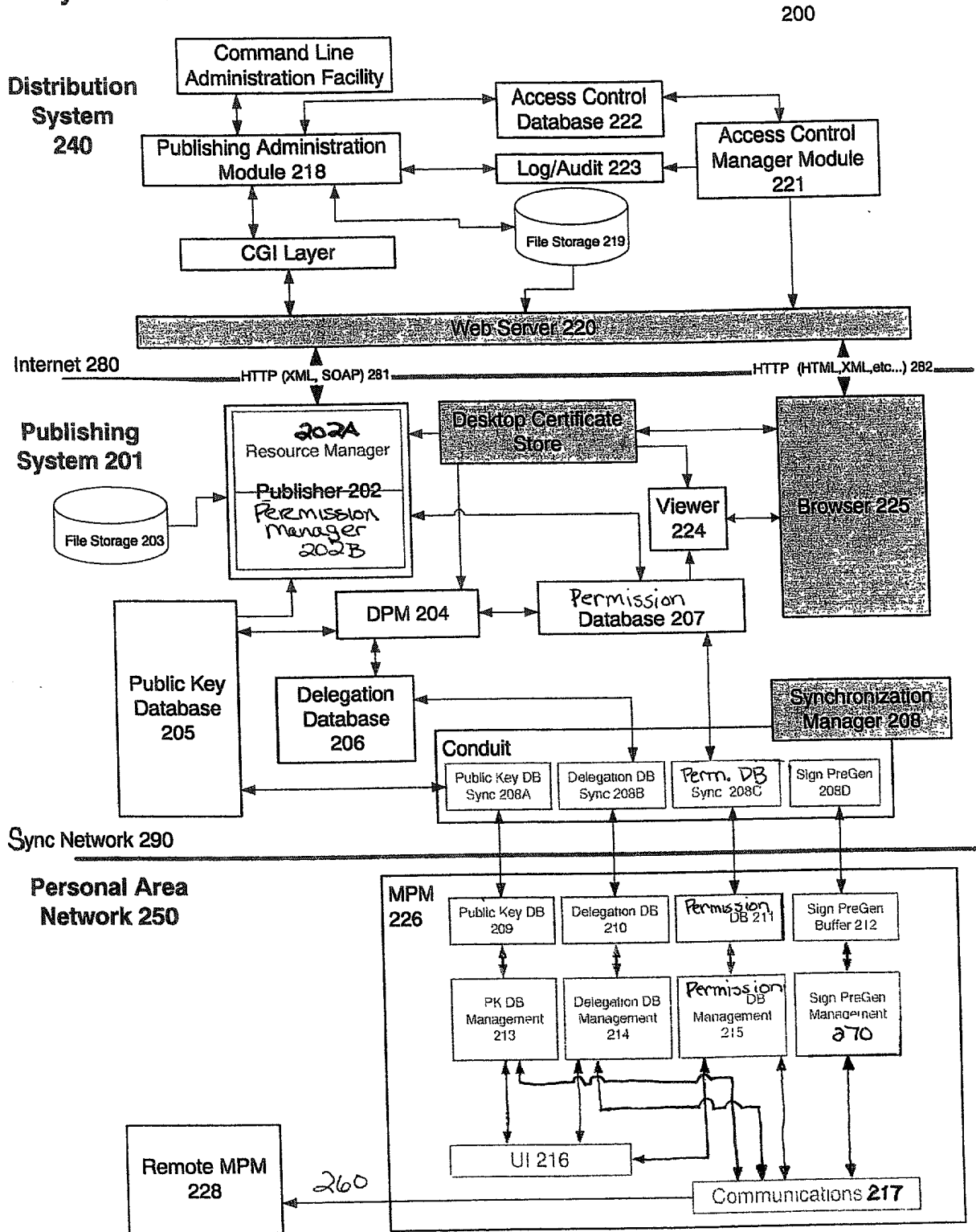


FIG. 2B

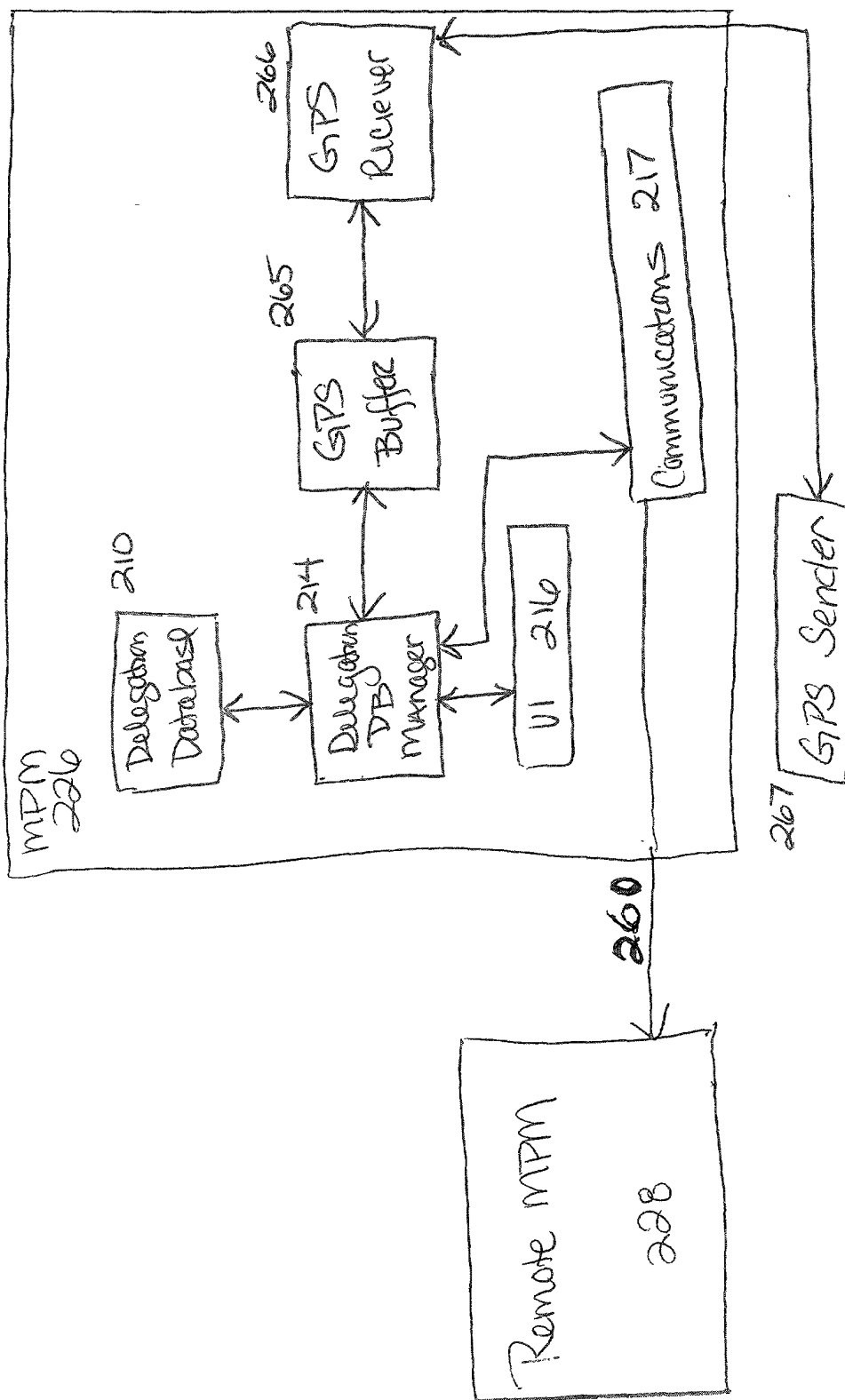
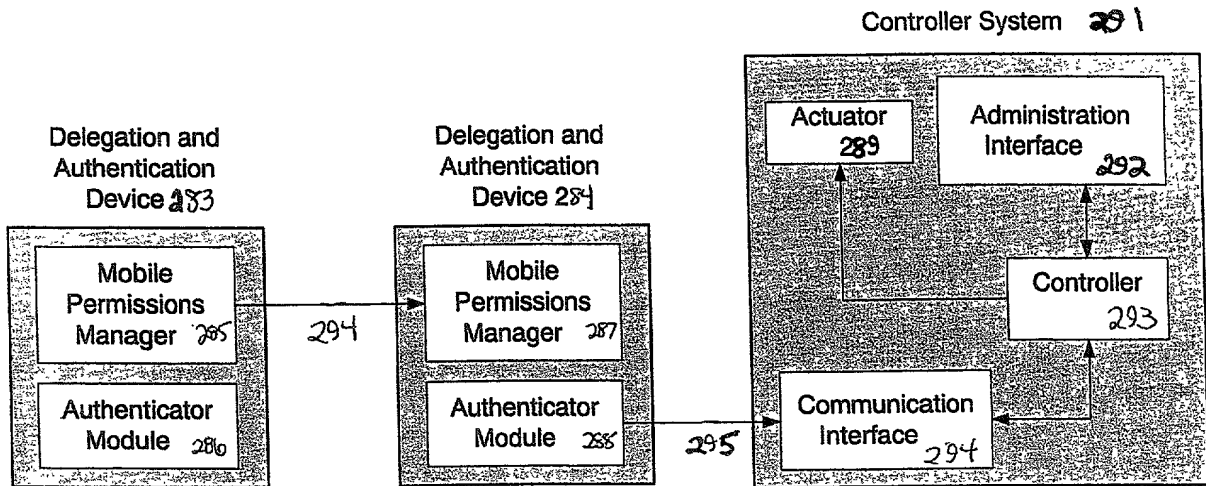


FIG. 2C



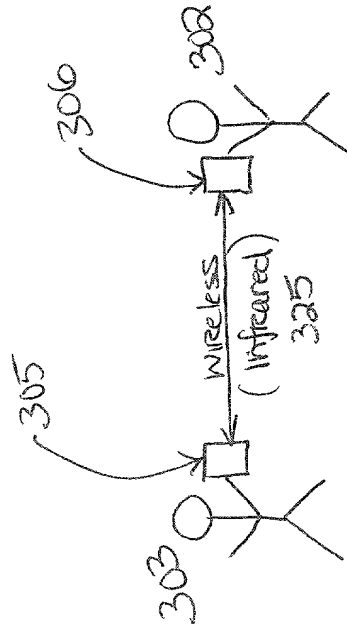
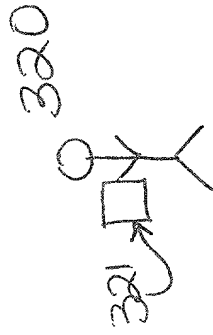


FIG. 3A

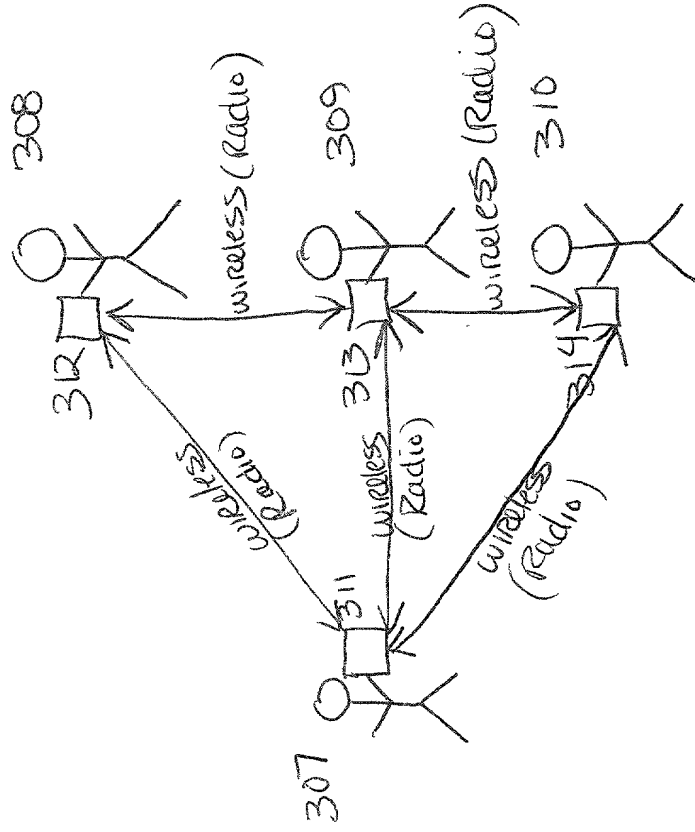


FIG. 3B



FIG. 4

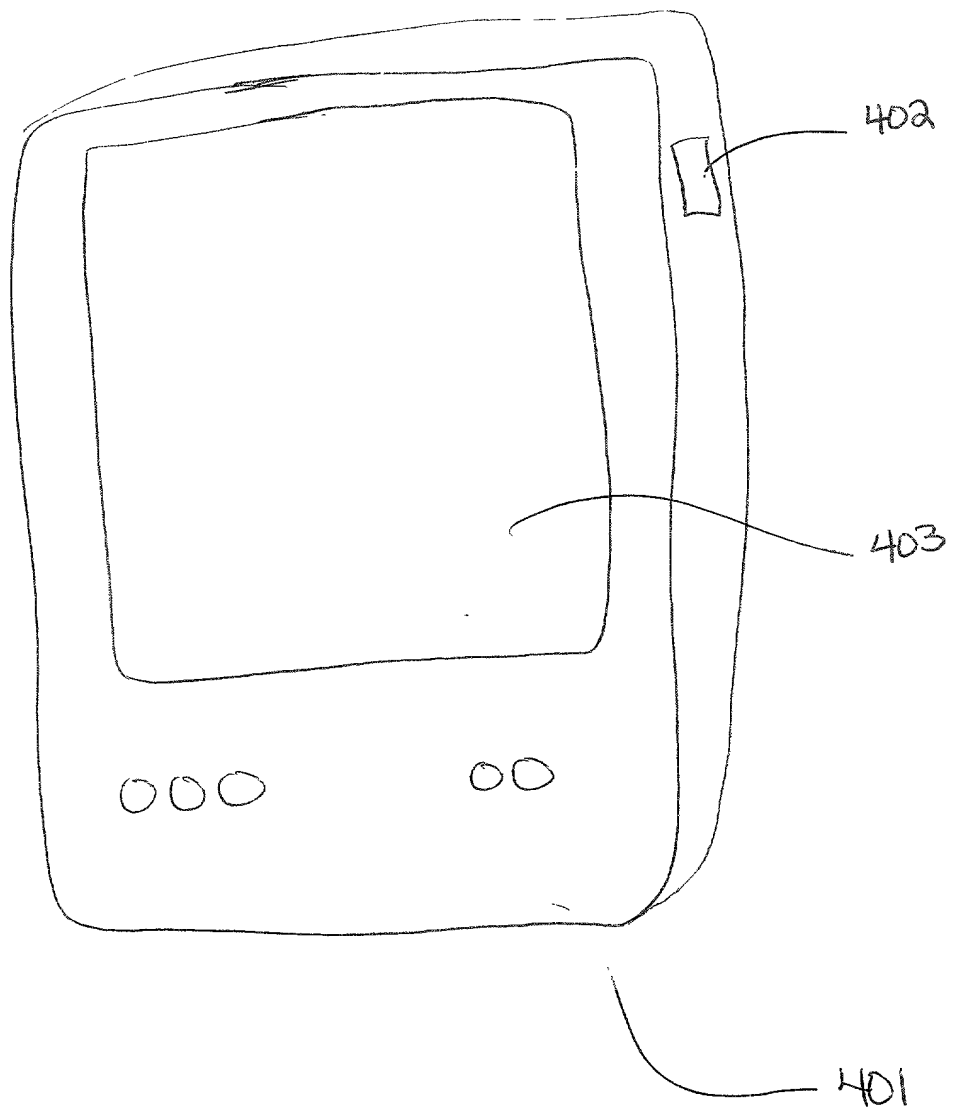


FIG. 5

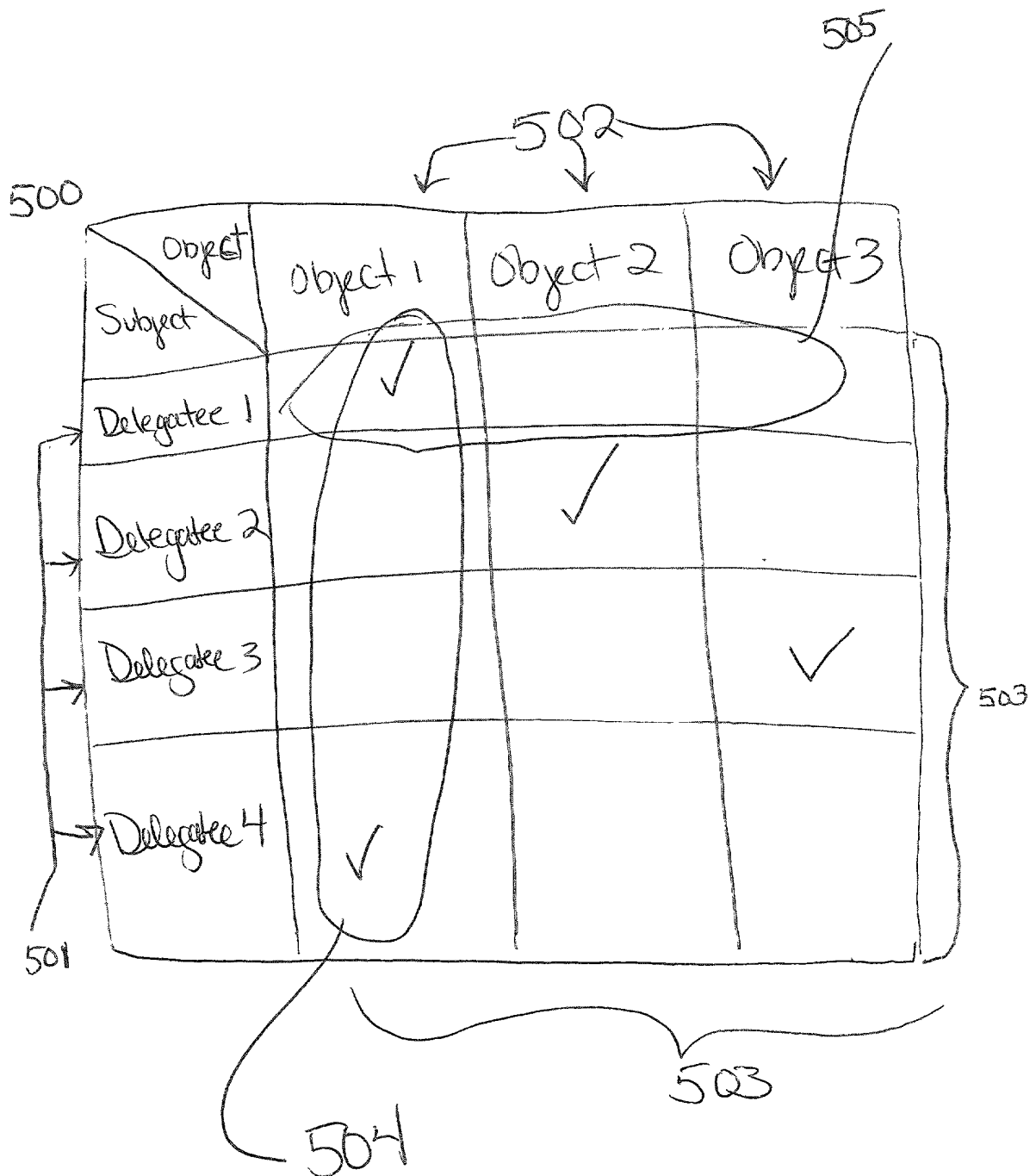
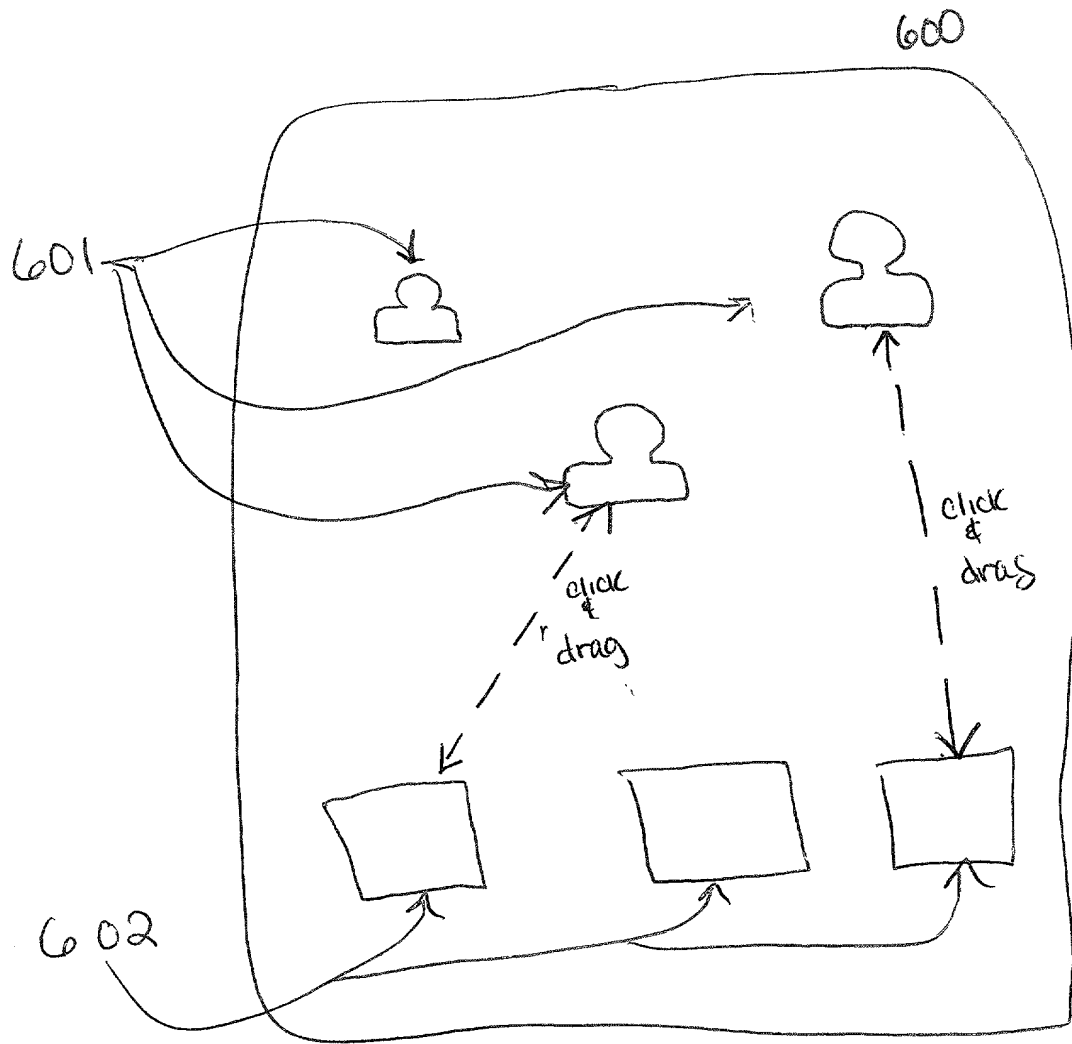


Fig. 4



Sending Permission as part of a header within an HTTP request.  
(see <http://www.ietf.org/rfc/rfc2616.txt>).

GET /resource/ HTTP/1.1  
Accept: image/gif, image/x-xbitmap, image/jpeg, image/pjpeg,  
application/vnd.ms-powerpoint, application/vnd.ms-excel,  
application/msword, \*/\*  
Accept-Language: en-us  
Accept-Encoding: gzip, deflate  
User-Agent: Mozilla/4.0 (compatible; MSIE 5.01; Windows NT 5.0)  
Vchain: 50U+F61olMMJzRmZs6QNRhx1UE3artX4ax56AJdJxYR7dzyPNglg+cwEOzzjT+  
v8ywbpyuugQvj1uZSSVDfkbje/C+NV8sLfp5d3eaTykzeP+siJxl7wg3njzn2mLOnRKrXw  
WuX6gW3gR76zVuIz0ylwS9bZzSiu+ImN/SaHRS3eqBFPL7Ye0lJzin4jH8l046kLpiXB+O  
CloFRqsCmy5/JCrgvR0lRw2rolg6uXgK8xKdybfSXPkX4w1A0d9GdGAqRycOGFoXtyzpS  
+bASvdt2UJMssCXAKTw5bi+sUzuTbeX2xPJwDsPvuevICZHVgwnqJemvVURH1DdhnMzYzF  
ZftTqeZ6sYAZCvsAiCYghRB6fk9JJV/vj9CzFlvfyFPfYYH75ONHjMdDr5qrVbSm4hK2GFZ  
IVPnyxYHwTafKHhbU2aQ5KFZbBGMwIikfBRMVfsqz3hpKa5Pd+NZELIwQ4FWlWgrIzL+jw  
Le1CfDk2V4SntsK+CFxBVgbU6dWpQYe2x0Bjat5yjbgyfXdz/vXfNxjHoAiUYwt4ZNwK0+  
UG78+Elrtw2UoIUpuQcCpCXh9EMeaACc7gSKY2KfuY10FeCHZ00c16a4M82DUtE6JhrX6U  
fR08r9QmxVnZu0/MW2vbWNS6rCUvsw78zWpChy3V1lBxTyofETq9WofZ3u+bomL8WgchTd  
/QPyHMaky37tXEhrjZxUkgJtI0oA12kVaTDERIwBnhQYM3mzp48n8wCq8qH2JP78DSOQwC  
HMolJQPmjfaOxaCR5wE9mhJGHjtTOpXx3GkLNlNuZYq7tbxYznGNJ2VgWUPpCQppohcWmF  
B1779OcTc59zt9kV6A3MyeI/1ZCP5iW+VjPEa6h5CWhqHDT3mvDXSAJ8Wx66XiIEJmtzil  
1Dpnt0phJpCDAPyM2X02bJGrPnimSbUsaELQWdMmtUyczy5TDI1lpqjKMNUlytlHdmN2jly  
2+hHplkzgxXXKhilI/JtC97X2GBbm7nlUnICG6sAbxq6lBHX5sNs1TzWChjYhtFlMuCezT  
UmflLBgGPgh6Uv3oyUVoasRmsKi6qbqweDdxXfZD3uFR/iJNLUzwnt3/PJwtpJpJHJ+Sia  
/hkB9+alMZxfSkMQaBpAE7/BfzRHs+09fDTL+kBFd00w0fvkTo9AlfVF99wiAJ0hZt7q+e  
GWkPi5SRO+9/T710r7wNvC9NELRfsziq/v+8LM179yjjCm0chAZTv09iA8i28gQotzjdFX  
1fE3vL0wmrP/6lGSfqZhWc2Ho/m7FmqA9pJQVCRsVXXQOSWAZdPC3a75Jxyoa8hHDxgluK  
RaAF1xQboHerlZ9GQHoi9ucQORhrbIu0S2Oafj99QjmszP3gQ64Pw+EakfS+lyQYbauY9  
Z+8bRf+G8JnhRZivcyu5ylRW74goguqs6BSf6NcuC3rBJhf30xn15l/a8SraFtzUR4rv+e  
qjQyE=  
Connection: Keep-Alive  
Host: [www.websitexyz.com](http://www.websitexyz.com)  
HTTP/1.0 200 OK  
Content-Length: 16485  
Content-Type: text/html  
<html><head><title>WebsiteXYZ</title>  
...

FIG. 7.

Sending the permission as part of a "cookie" within an HTTP request  
(see <http://www.ietf.org/rfc/rfc2616.txt> and <http://www.ietf.org/rfc/rfc2109.txt>).

GET /resource/ HTTP/1.1  
Accept: image/gif, image/x-xbitmap, image/jpeg, image/pjpeg,  
application/vnd.ms-powerpoint, application/vnd.ms-excel,  
application/msword, \*/\*  
Accept-Language: en-us  
Accept-Encoding: gzip, deflate  
User-Agent: Mozilla/4.0 (compatible; MSIE 5.01; Windows NT 5.0)  
Cookie: Vchain=50U+F61olMMJzRmZs6QNRhx1UE3artX4ax56AJdJxYR7dzyPNglg+cw  
EOzzjT+v8ywbpyuugQvjluZSSVDFkbje/C+NV8sLfp5d3eaTykzeP+siJxl7wg3njzn2mL  
OnRKrXwWuX6gW3gR76zVuIz0ylwS9bZzSiu+ImN/SaHRS3eqBFPL7Ye0lJzin4jH8l046k  
LpiXB+OCloFRqsCmy5/JCrgvR0lRw2rolg6uXgK8xKdybfSXPKJx4w1A0d9GdGAqRycOGF  
oXtyzpS+bASvdt2UJMssCXAKTw5bi+sUzUtheX2xPJwDsPvuevICZHVgwnqJemvVUrH1DD  
hnMzYzFZfTqeZ6sYAZCvsAiCYghRB6fK9JJV/vj9CzFlvfyFPfYYH75ONHjMdDr5qrVbSm  
4hK2GFZIVPnyxYHwTafKHhbU2aQ5KFZbBGMwIikfBRMVfsqz3hpKa5Pd+NZELIwQ4FWlWg  
rIzL+jwLe1CfDk2V4SntsK+CFxBVGBU6dWpQYe2x0Bjat5yjbgyfXdz/vXfNxxjHoAiUYwt  
4ZNwK0+UG78+Elrtw2UoIUPuQoCpCXh9EMeaACc7gSKY2KfuY10FeCHZ00c16a4M82DutE  
6JhrX6Ufr08r9QmxVnZu0/MW2vbWNS6rCUvsw78zWpChy3V1lBxTyofETq9WofZ3u+bomL  
8WgchTd/QPyHMaky37tXEhrjZxUkgJtI0oA12kVaTDERIwBnhQYM3mzp48n8wCq8qH2JP7  
8DSOQwCHMolJQPmjfaOxaCR5wE9mhJGHjtTopXx3GkLN1NuZYq7tbxYznGNJ2VgwUPpCQp  
pohcWmFB17790cTc59zt9kV6A3MyeI/1ZCP5iW+VjPEa6h5CWhqHDT3mvDXSAJ8Wx66XiI  
EJmtzillDpnt0phJpCDAPyM2X02bJGrPnimSbUsaELQWdMmtUyczy5TDIlpqjKMNUlyt1H  
dmN2jly2+hHplkzgxXXKhilI/JtC97X2GBbm7nlUnICG6sAbxq6lBHX5sNs1TzWChjYhtF  
lMuCezTUmflLBGpGh6Uv3oyUVoasRmsKi6qbqweDdxXfZD3uFR/iJNLUzwnt3/PJwtPJp  
JHJ+SIa/hkB9+alMZxfSkMQaBpAE7/BfzRHs+09fDTL+kBFdO0w0fvkTo9AlfVF99wiAJ0  
hZt7q+eGwKPi5SRO+9/T710r7wNvC9NELRfsziq/v+8LM179yjjCm0chAZTv09iA8i28gQ  
otzjdFX1fE3vL0wmrP/6lGSfqZhWc2Ho/m7FmqA9pJQVCRsVXXQOSWAZdPC3a75Jxyoa8h  
HDxgluKRaf1xQboHerlZ9GQHoia9ucQORhrbIu0S2Oafj99QjmszP3gQ64Pw+EakfS+lY  
QYbauY9Z+8bRf+G8JnhRZlvcyu5y1RW74goguqs6BSf6NcuC3rBJhf30xn15l/a8SraFtz  
UR4rv+eqjQyE=  
Connection: Keep-Alive  
Host: [www.websitexyz.com](http://www.websitexyz.com)  
HTTP/1.0 200 OK  
Content-Length: 16485  
Content-Type: text/html  
<html><head><title>WebsiteXYZ</title>  
...

FIG. 8

Sending the permissions as part of a URL

[Fig. 9](http://www.websitexyz.com/resource/?Vchain=50U+F61olMMJzRmZs6QNRhx1UE3artX4ax56AJdJxYR7dzyPNglg+cwEOzzjT+v8ywbpyuugQvj1uZSSVdfkbje/C+NV8sLfp5d3eaTykzeP+siJxl7wg3njzn2mLOnRKrXwWuX6gW3gR76zVuIz0ylwS9bZzSiu+ImN/SaHRS3eqBFPL7Ye0lJzin4jH8l046kLpiXB+OCloFRqsCmy5/JCrgvR0lRw2rolg6uXgK8xKdybfSXPkJx4wlA0d9GdGAqRycOGFoXtyzps+bASvdt2UJMssCXAKTw5bi+sUzuTbeX2xPJwDsPvuevICZHVgwnqJemvVUrHlDDhnMzYzFZftqeZ6sYAZCvsAiCYghRB6fK9JJV/vj9CzF1vfyFPfYYH75ONHjMdr5qrVbSm4hK2GFZIVPnyxYHwTafKHhbU2aQ5KFZbBGMwIikfBRMVfsqz3hpKa5Pd+NZELIwQ4FWlWgrIzL+jwLe1CfDk2V4SntsK+CFxBVGBU6dWpQYe2x0Bjat5yjbgyfXdz/vXfNxjHoAiUYwt4ZNwK0+UG78+E1rtw2UoIUPuQoCpCXh9EMeaACc7gSKY2KfuY10FeCHZ00c16a4M82DutE6JhrX6Ufr08r9QmxVnZu0/MW2vbWNS6rCUvsw78zWpChy3V1lbtYofETq9WofZ3u+bomL8WgchTd/QPyHMaky37tXEhrjZxUkgJtI0oA12kVaTDERIwBnhQYM3mzp48n8wCq8qH2JP78DSOQwCHMolJQPmjfaOxaCR5wE9mhJGHjtTOpXx3GkLNlNuZYq7tbxYznGNJ2VgwUPpCQppohcWmFB17790cTc59zt9kV6A3MyeI/lZCP5iW+VjPEa6h5CWhqHDT3mvDXSAJ8Wx66XiIEJmtzil1Dpnt0phJpCDAPyM2X02bJGrPnimSbUsaELQWdMmtUyczy5TDIlpgjKMNUlytlHdmN2jly2+hHplkzgxXKhilI/JtC97X2GBbm7nlUnICG6sAbxq6lBHX5sNslTzWChjYhtFlMuCezTUmflLBgGPgh6Uv3oyUVoasRmsKi6qbqweDdxXfZD3uFR/iJNLUzwnt3/PJwtPJpJHJ+Sia/hkB9+a1MZxfSkMQaBpAE7/BfzRHs+09fDTL+kBFdO0w0fvkTo9A1fVF99wiAJ0hZt7q+eGwKPi5SRO+9/T710r7wNvC9NELRfsziq/v+8LM179yjjCm0chAZTv09iA8i28gQotzjdFXlfe3vL0wmrP/6lGSfqZhWc2Ho/m7FmqA9pJQVCRsVXXQOSWAZdPC3a75Jxyoa8hHDxgluKRafLxQboHeRlZ9GQHoia9ucQORhrbIu0S2Oafj99QjmszP3gQ64Pw+Eakfs+1YQYbauY9Z+8bRf+G8JnhRZlvcyu5y1RW74goguqs6BSf6NcuC3rBJhf30xn15l/a8SraFtzUR4rv+eqjQyE=</a></p>
</div>
<div data-bbox=)

Fig. 10

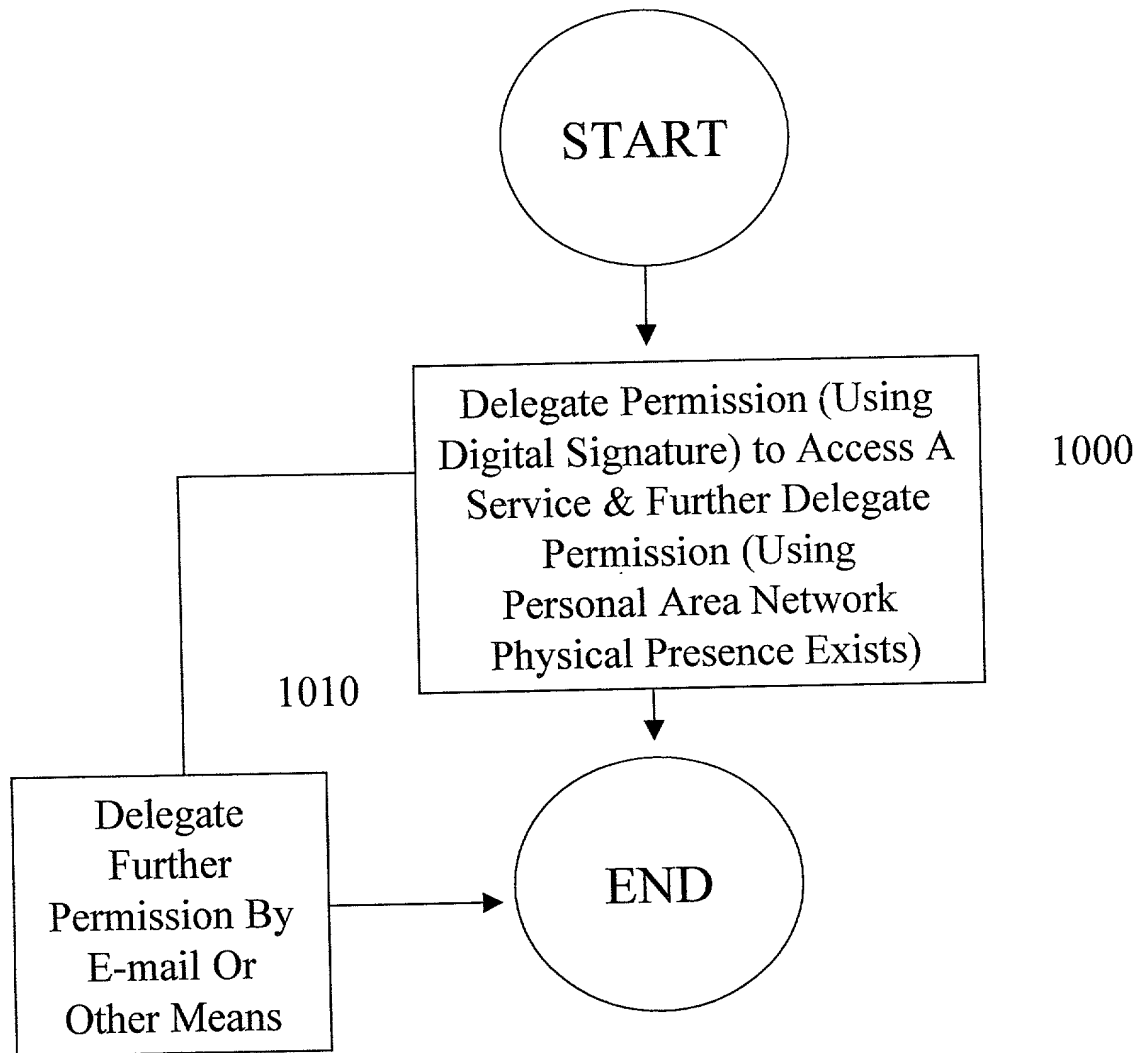


Fig. 11

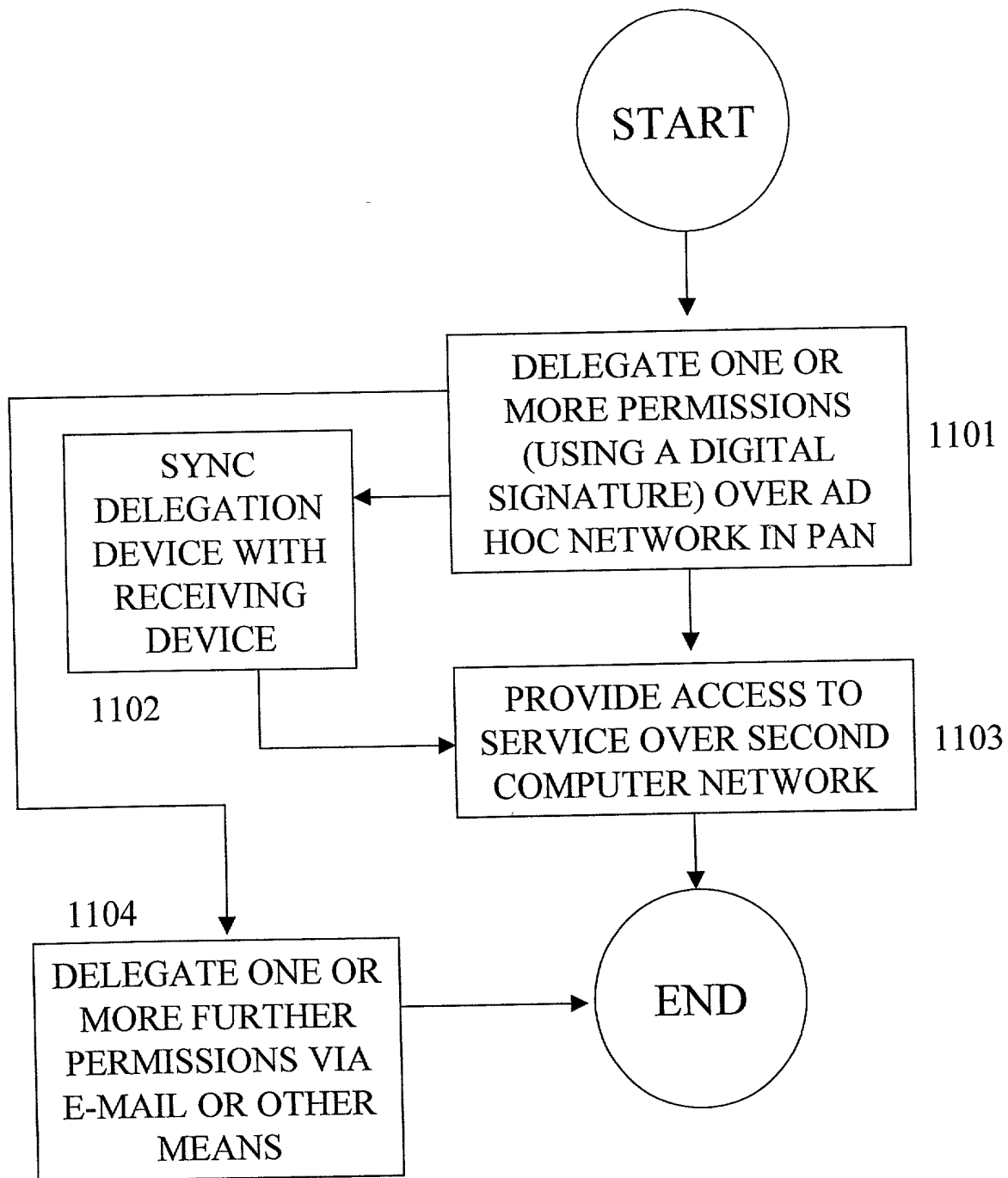




Fig. 12

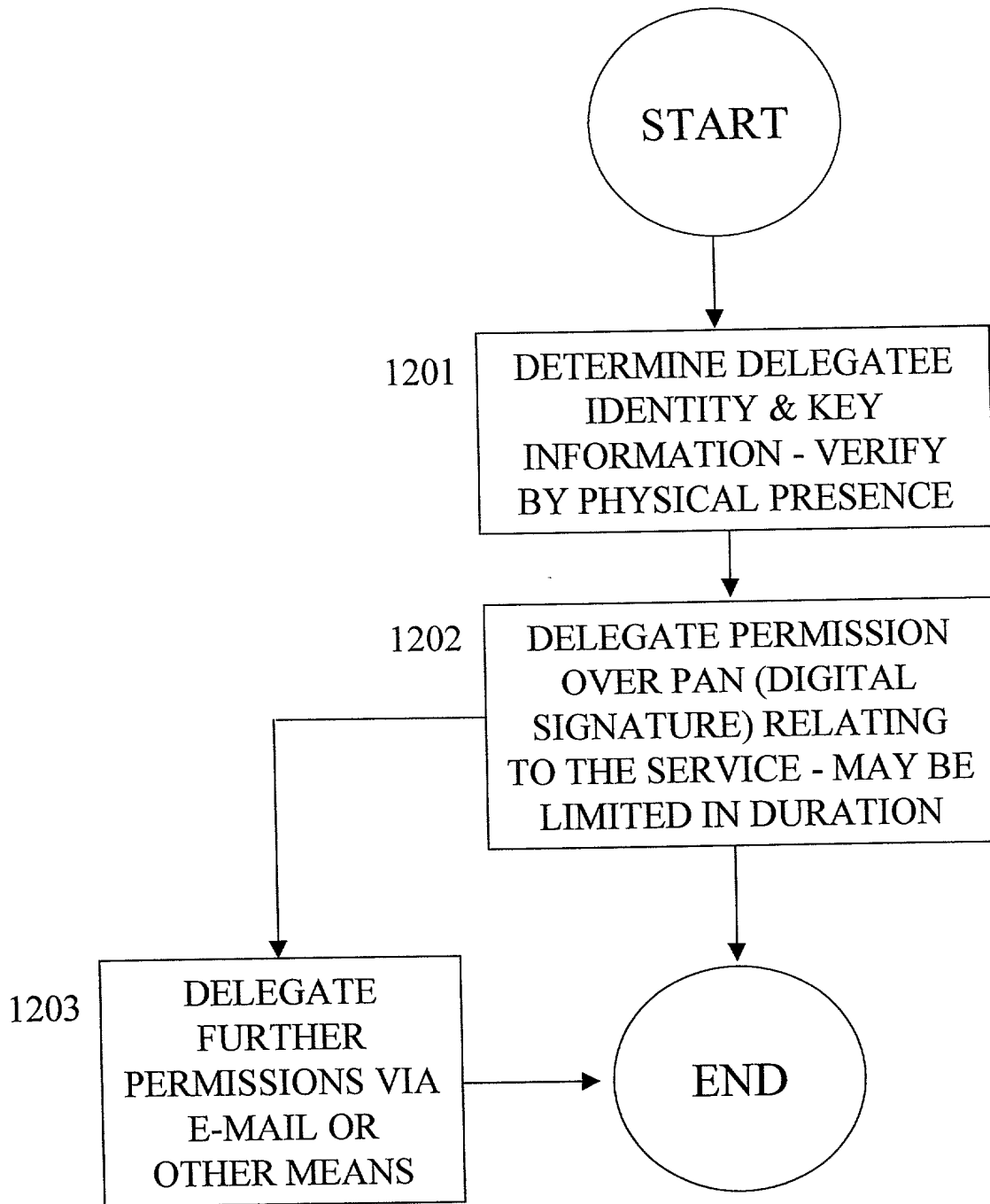


Fig. 13

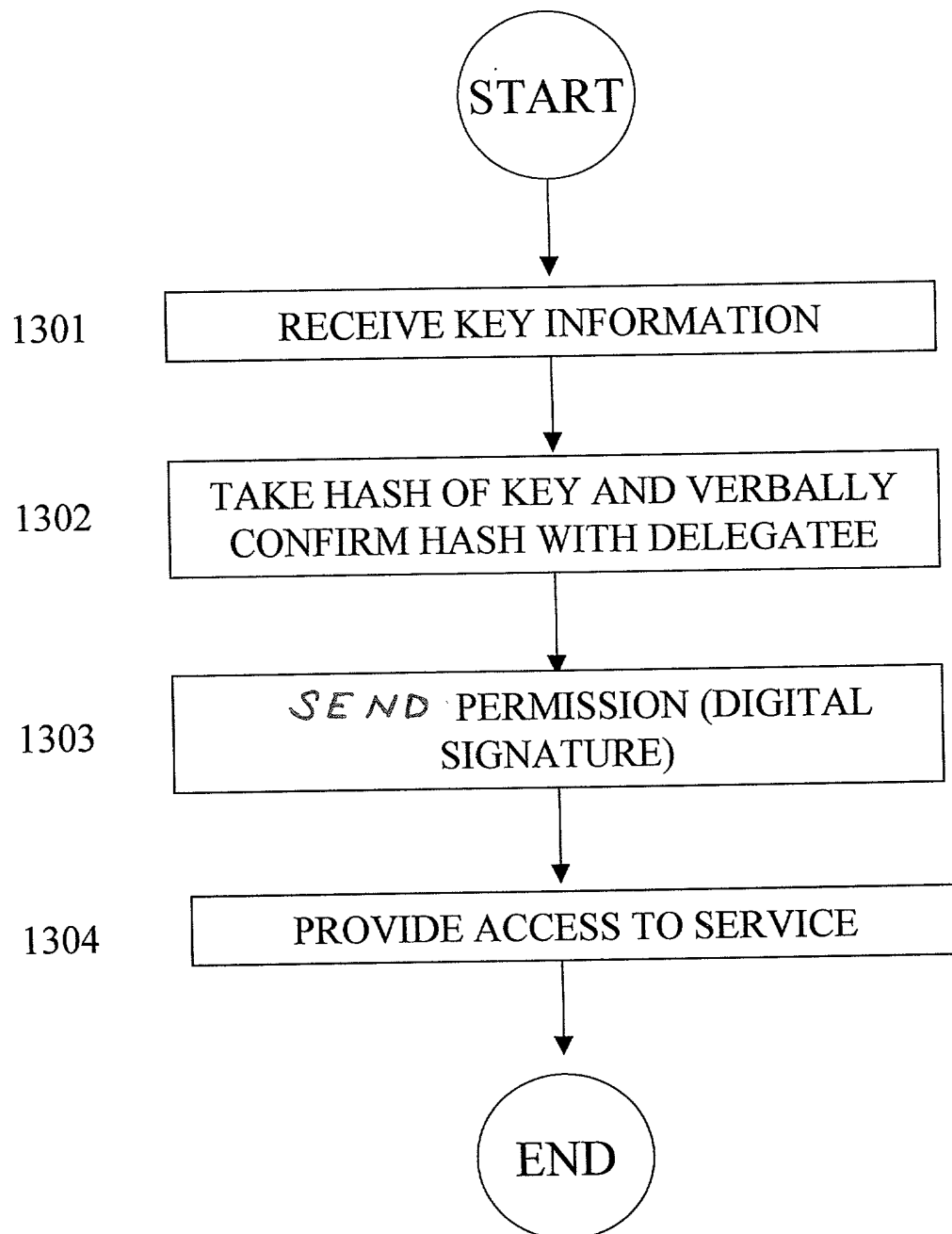


Fig. 14

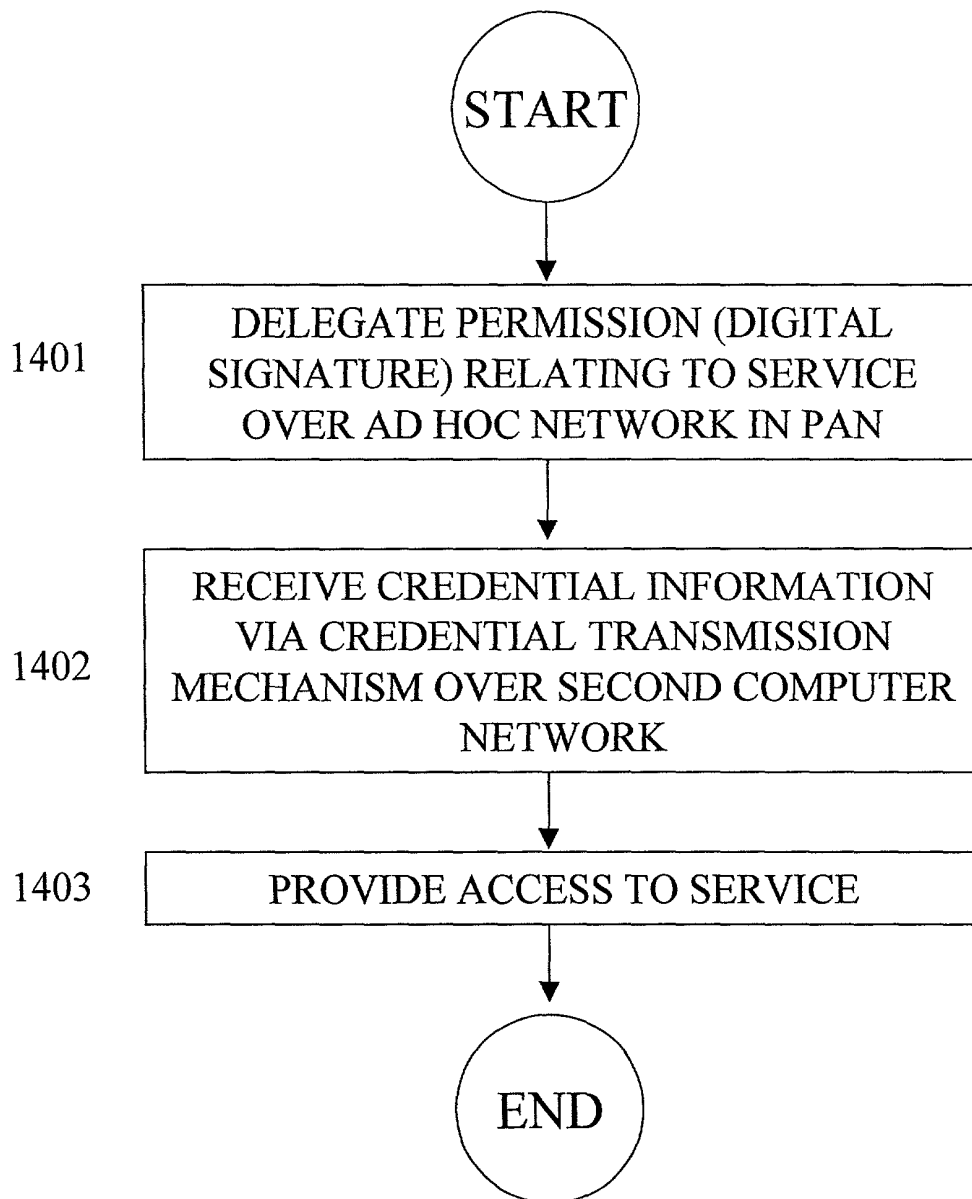


Fig. 15

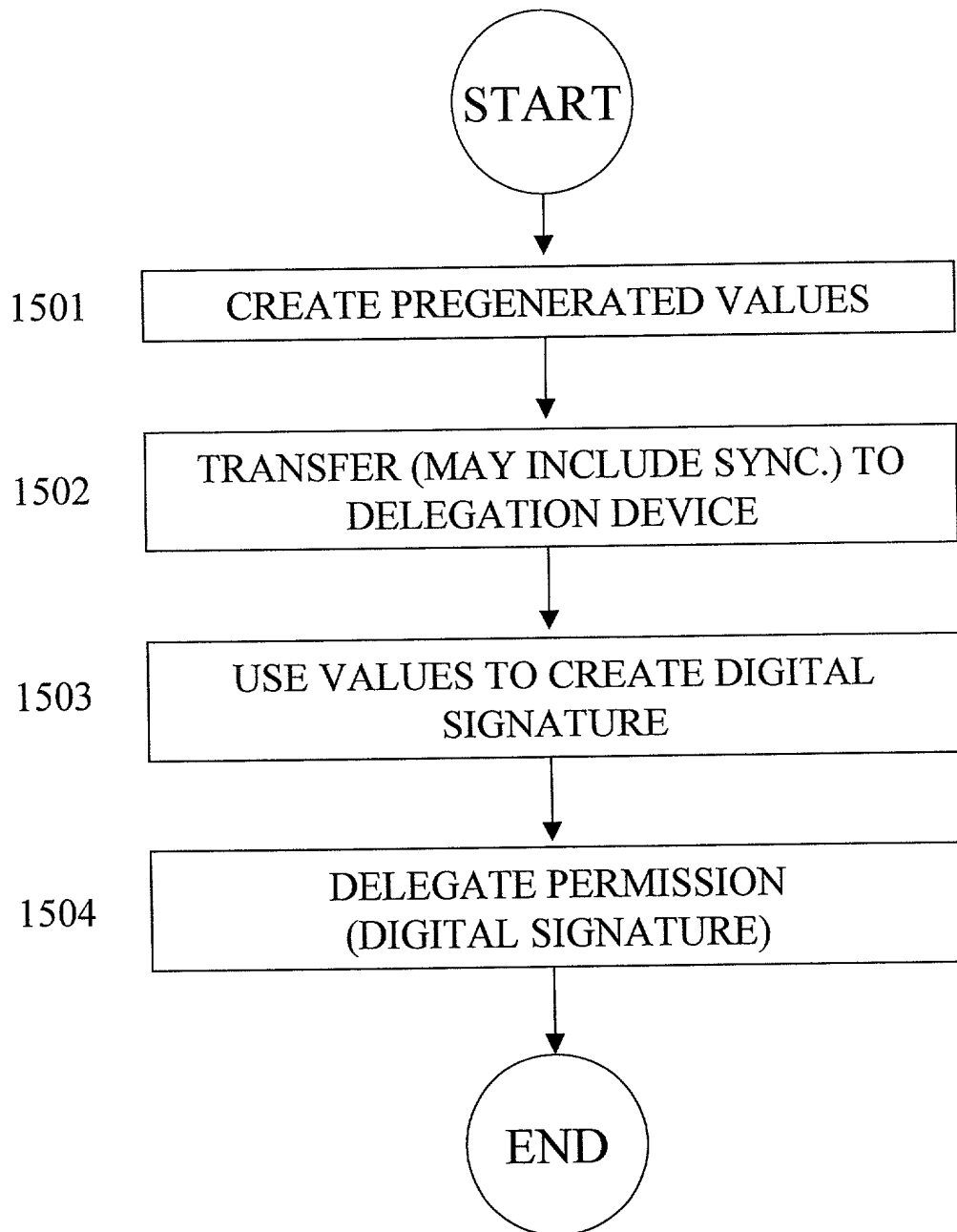


Fig. 16

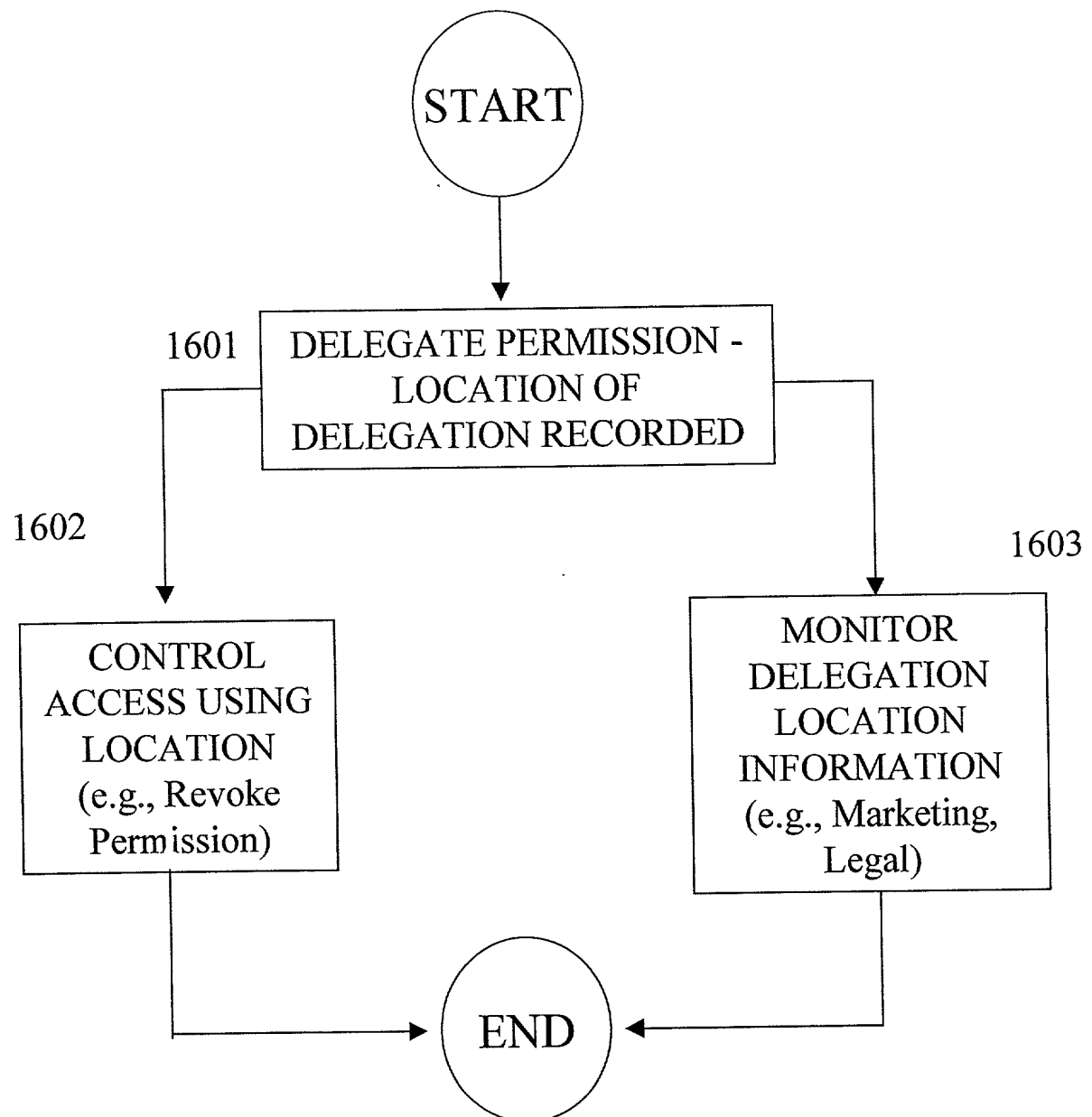


Fig. 17

